

## **AMENDMENTS TO THE CLAIMS**

The following listing of claims will replace all prior versions and listings of claims in the application.

### **LISTING OF CLAIMS**

1. (Currently Amended) A semiconductor device, comprising:
  - a semiconductor region[[,]] in which an impurity of one conductivity type is doped;
  - a gate insulation layer[[,]] formed on the semiconductor region;
  - a gate electrode[[,]] formed on the gate insulation layer;
  - a lightly doped layer, formed in a region from ~~the~~ a principal surface of the semiconductor region to a first depth of the semiconductor region, in which a first impurity of ~~the~~ another conductivity type is implanted into the semiconductor region with a first dose amount; and
  - a heavily doped layer, formed in a region from the principal surface of the semiconductor region to a second depth, ~~which is shallower than the first depth~~, in which a second impurity of the another conductivity type is implanted into the semiconductor region with a second dose amount in a range of the first dose amount or more to  $1 \times 10^{15}/\text{cm}^2$  or less;

wherein the second depth is less than the first depth.

2. (Currently Amended) A semiconductor device, comprising:
- a semiconductor region[[,]] in which an impurity of one conductivity type is doped;
  - a gate insulation layer[[,]] formed on the semiconductor region;
  - a gate electrode[[,]] formed on the gate insulation layer;
  - a lightly doped layer, formed in a region from ~~the~~ a principal surface of the semiconductor region to a first depth of the semiconductor region, in which a first impurity of ~~the~~ another conductivity type is implanted into the semiconductor region with a first dose amount; and
  - a heavily doped layer, formed in ~~the~~ a depth direction from the principal surface of the semiconductor region, in which a second impurity of the another conductivity type is implanted into the semiconductor region with a second dose amount so that a peak position of ~~the~~ a concentration of the second impurity exists at a second depth position, ~~which is the second depth position being shallower~~ less than the first depth by 0.15  $\mu\text{m}$  or more.

3. (Currently Amended) A semiconductor device, comprising:

- a semiconductor region[[,]] in which an impurity of one conductivity type is doped;
- a gate insulation layer[[,]] formed on the semiconductor region;
- a gate electrode[[,]] formed on the gate insulation layer;
- a lightly doped layer, formed in a region from ~~the~~ a principal surface of the semiconductor region to a first depth of the semiconductor region, in which a first impurity of ~~the~~ another conductivity type is implanted into the semiconductor region with a first dose amount; and
- a heavily doped layer, formed in ~~the~~ a depth direction from the principal surface of the semiconductor region, in which a second impurity of ~~the~~ another conductivity type is implanted into the semiconductor region with a second dose amount in a range of the first dose amount or more to  $1 \times 10^{15}/\text{cm}^2$  or less so that a peak position of ~~the~~ a concentration of the second impurity exists at a second depth position, ~~which is shallower~~ the second depth position being less than the first depth by  $0.15 \mu\text{m}$  or more.

4. (Currently Amended) The semiconductor device according to ~~any of~~ claim[[s]] 1 ~~through 3~~, wherein the one conductivity type is N-type and the another conductivity type is P-type.

5. (Currently Amended) The semiconductor device according to ~~any of~~ claim[[s]] 1 ~~through 3~~, wherein the second impurity is arsenic.

6. (Currently Amended) The semiconductor device according to ~~any of~~ claim[[s]] 1 through 5, further comprising a trench structure that isolates the semiconductor region.

7. (Currently Amended) A method of manufacturing a semiconductor device, comprising:

forming a semiconductor region by doping an impurity of one conductivity type;

forming a gate insulation layer on the semiconductor region;

forming a gate electrode on the gate insulation layer,

forming a lightly doped layer in a region from ~~the~~ a principal surface of the semiconductor region to a first depth of the semiconductor region by implanting a first impurity of ~~the~~ another conductivity type into the semiconductor region with a first dose amount; and

forming a heavily doped layer in a region from the principal surface of the semiconductor region to a second depth, which is ~~shallower~~ less than the first depth, by implanting a second impurity of the another conductivity type into the semiconductor region with a second dose amount in a range of the first dose amount or more to  $1 \times 10^{15}/\text{cm}^2$  or less.

8. (Currently Amended) A method of manufacturing a semiconductor

device, comprising:

forming a semiconductor region by doping an impurity of one conductivity type;

forming a gate insulation layer on the semiconductor region;

forming a gate electrode on the gate insulation layer;

forming a lightly doped layer in a region from ~~the~~ a principal surface to a first depth of the semiconductor region by implanting a first impurity of ~~the~~ another conductivity type into the semiconductor region with a first dose amount; and

forming a heavily doped layer in ~~the~~ a depth direction from the principal surface of the semiconductor region by implanting a second impurity of the another conductivity type into the semiconductor region with a second dose amount so that a peak position of ~~the~~ a concentration of the second impurity exists at a second depth position, ~~which is shallower~~ the second depth position being less than the first depth by 0.15  $\mu\text{m}$  or more.

9. (Currently Amended) A method of manufacturing a semiconductor

device, comprising:

forming a semiconductor region by doping an impurity of one conductivity type;

forming a gate insulation layer on the semiconductor region;

forming a gate electrode on the gate insulation layer;

forming a lightly doped layer in a region from ~~the~~ a principal surface to a first depth of the semiconductor region by implanting a first impurity of ~~the~~ another conductivity type into the semiconductor region with a first dose amount; and

forming a heavily doped layer in ~~the~~ a depth direction from the principal surface of the semiconductor region by implanting a second impurity of the another conductivity type into the semiconductor region with a second dose amount in a range of the first dose amount or more to  $1 \times 10^{15}/\text{cm}^2$  or less so that a peak position of ~~the~~ a concentration of the second impurity exists at a second depth position, ~~which is shallower~~ the second depth being less than the first depth by 0.15  $\mu\text{m}$  or more.

10. (Currently Amended) A semiconductor device, comprising:
- a semiconductor region[[,]] in which an impurity of one conductivity type is doped;
  - a gate insulation layer[[,]] formed on the semiconductor region;
  - a gate electrode[[,]] formed on the gate insulation layer; and
  - a heavily doped layer, formed by implanting a second impurity of the another conductivity type into the semiconductor region with a second dose amount of  $1 \times 10^{15} \text{ cm}^{-2}$  or less.